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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/987,617	11/15/2001	Minoru Matsuda	0505-0923P	7407

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EXAMINER

CORRIGAN, JAIME W

ART UNIT	PAPER NUMBER
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3748

10

DATE MAILED: 07/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/987,617

Applicant(s)

MATSUDA ET AL

Examiner

Jaime W Corrigan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-11, 13-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☒ Claim(s) 7, 12 and 15 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6-7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of Figures 1-6, claims 1-6, 8-11, 13-14 in Paper No. 9 is acknowledged.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Rhoads (PN 1,524,150).

Regarding claims 1, 10 Rhoads discloses a plurality of intake and exhaust valves (See Figure 1 (18)) for opening and closing intake and exhaust ports of said combustion chambers being provided at said cylinder head portions (See Figure 1 (11)); a plurality of valve camshafts (See Figure 1 (27)) operating in connection with said crankshaft, said valve camshafts being rotatably supported at said crankcase portions (See Figure 1 (28)); a plurality of valve-operating members (See Figure 2 (42)) for operating said intake and exhaust valves; and a plurality of oscillating arms (See Figure 1 (29)) operating in connection with said valve camshafts being connected with said valve-operating members through pull rods (See Figure 1 (40, (40')) disposed

respectively on lateral sides of said cylinder banks.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-6, 8-9, 11, 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rhoads (PN 1,524,150) in view of Woodgate (GB 138,803).

Rhoads discloses said oscillating arms (See Figure 1 (29)) operating in connection with said valve camshafts (See Figure 1 (27)) and said valve-operating members (See Figure 2 (42)) for operating said intake and exhaust valves are respectively connected to each other through said pull rods (See Figure 1 (40, (40')) disposed on both sides of said cylinder banks; a plurality of valve springs (See Figure 1 (24)), said intake and exhaust valves (See Figure 1 (18)) being energized in a closing direction by said valve springs

Rhoads fails to disclose intake and exhaust camshafts; camshafts on both sides of crankcase; a horizontally opposed engine; a timing gear mechanism.

Woodgate teaches that it is conventional in the art to utilize valve camshafts include at least one intake valve camshaft (See Figure 1 (d)) and at least one exhaust valve camshafts (See Figure 1 (d)); said intake and said exhaust

valve camshafts are disposed respectively on both sides of said crankcase (See Figure 1 (f)) portions with said crankshaft (See Figure 1) therebetween; said engine is a horizontally opposed (See Figure 1 Page 2 Lines 28-32), four valve-internal combustion engine; comprising a timing gear (See Page 1 Lines 5-7) mechanism, said valve camshafts (See Figure 1 (d)) being rotationally driven by the crankshaft through said timing gear mechanism (See Page 1 Lines 5-7).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the plurality of camshafts taught by Woodgate in the Rhoads device since it would improve engine power.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Daniel et al. (PN 5,493,952), Warren (PN 6,209,495) disclose similar engines.

Any inquiry concerning this communication from the examiner should be directed to Examiner Jaime Corrigan whose telephone number is (703) 308-2639. The examiner can normally be reached on Monday - Friday from 8:30 a.m. – 6:00 p.m. 2nd Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion, can be reached on (703) 308-2623. The fax number for this group is (703) 872-9302. After Final (703) 872-9303.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0861.

JC

Jaime Corrigan



Patent Examiner

February 20, 2003

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THOMAS DENION
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700